

Abstract

However the value of the stock price could be fluctuate and uncertain everyday, we need a model to generate accurate predictions to get the maximum benefit.

In this final project will be used Fuzzy Time Series and Fuzzy Time Series-Genetic Algorithm method to predict stock price. Fuzzy Time Series will generate interval with the same interval range and predict stock price based on Fuzzy Time Series rules and Genetic Algorithm will improve performance by searching the largest fitness value interval in each iteration to generate the results of predictions by using rules Fuzzy Time series. Both prediction, generated from Fuzzy time series and Fuzzy time series-genetic algorithm will be compared.

Result form this Final project shows that prediction generated by Fuzzy time series method has 0.017611 MAPE Value and 48249.1993 MSE value. Meanwhile prediction generated from fuzzy time series Genetic Algorithm method on scenario 1 has 0.0028653 MAPE value and 15.7221 MSE value, on scenario 2 has 0.0028478 MAPE value and 16.3946 MSE value, on scenario 3 has 0.0027542 MAPE value and 15.6174 MSE value. From this experiment concluded that prediction based on fuzzy time series genetic algorithm has smaller error rate than the prediction based on fuzzy time series method.

Keywords - fuzzy time series; time series; Genetic Algorithm; forecasting; soft computing; the stock price data.